

Claims

1. A method of testing an electric circuit of a wireless device of a telecommunications system, the method including:

supplying current to at least one current path of a network of electric components, the network being characterized with a predefined network configuration;

measuring effective values of node voltages in at least two nodes of the at least one current path, a node representing an equipotential point of adjacent electric components; and

deriving a characterizing value of at least one electric component of the network by using the effective value of the current, the effective values of the node voltages, and the predefined network configuration.

2. The method of claim 1, wherein the characterizing value of the at least one electric component depends on the frequency of current.

3. The method of claim 1, wherein the step of deriving includes calculating the characterizing value with a closed-form mathematical expression formed according to the predefined network configuration.

4. The method of claim 1, further including deriving the characterizing value by using the frequency associated with current.

5. The method of claim 1, further including deriving the characterizing value by using *a priori* characterizing value.

6. The method of claim 1, further including: measuring effective values of node voltages of an electric component which has a known characterizing value; and

deriving the value of current by using the effective values of the node voltages of the electric component which has the known characterizing value, and the known characterizing value.

7. The method of claim 1, further including accessing the network with a standardized boundary scan test structure in order to measure the effective values of the node voltages.

8. The method of claim 1, further including accessing the network with a standardized boundary scan test structure in order to supply the current to the at least one current path.

9. The method of claim 7, wherein at least a portion of the network and at least a portion of the test structure are placed on a one and the same integrated circuit.

10. The method of claim 8, wherein at least a portion of the network and at least a portion of the test structure are placed on a one and the same integrated circuit.

11. The method of claim 1, wherein the predefined network configuration includes a delta configuration.

12. The method of claim 1, wherein the characterizing value of an electric component represents a value of an electric quantity selected from a group including: resistance, capacitance, inductance, conductance, impedance.

13. The method of claim 1, further including supplying current to a plurality current paths; and

measuring effective values of the values of node voltages in nodes of the plurality of current paths.

14. An arrangement for testing an electric circuit of a wireless device of a telecommunications system, comprising:

a current source connected to a network of electric components, the current source for supplying current to at least one current path of the network, the network being characterized with a predefined network configuration;

a measurement unit connected to the network, the measurement unit for measuring effective values of node voltages in at least two nodes of the at least one current path, a node representing an equipotential point of adjacent electric components; and

a processing unit connected to the measurement unit, the processing unit for deriving a characterizing value of at least one electric component of the network by using the effective value of the current, the effective values of the node voltages, and the predefined network configuration.

15. The arrangement of claim 14, wherein the characterizing value of the at least one electric component depends on the frequency of current.

16. The arrangement of claim 14, wherein the processing unit is configured to calculate the characterizing value with a closed-form mathematical expression formed according to the predefined network configuration.

17. The arrangement of claim 14, wherein the processing unit is configured to derive the characterizing value by using the frequency associated with current.

18. The arrangement of claim 14, wherein the processing unit is configured to derive the characterizing value by using *a priori* characterizing value.

19. The arrangement of claim 14, wherein the measurement unit is configured to measure the effective values of node voltages of an electric component which has a known characterizing value; and

the processing unit is configured to derive the value of current by using the effective values of the node voltages of the electric component, which has the known characterizing value, and the known characterizing value.

20. The arrangement of claim 14, further including a standardized boundary scan test structure connected to the network, the standardized boundary scan test structure for providing access to the network.

21. The arrangement of claim 20, wherein at least a portion of the network and at least a portion of the test structure are placed on one and the same integrated circuit.

22. The arrangement of claim 20, wherein the test structure is further connected to the measurement unit, the test structure configured to access nodes of the at least one current path in order to measure the effective values of the node voltages.

23. The arrangement of claim 20, wherein the test structure is further connected to the current source, the test structure configured to access the network in order to supply current to the at least one current path.

24. The arrangement of claim 14, wherein the predefined network configuration includes a delta configuration.

25. The arrangement of claim 14, wherein the characterizing value of an electric component represents a value of an electric quantity selected from a group including: resistance, capacitance, inductance, conductance, impedance.

26. An arrangement for testing an electric circuit of a wireless device of a telecommunications system, comprising:

means connected to a network of electric components, the means for supplying current to at least one current path of the network, the network being characterized with a predefined network configuration;

means connected to the network, the means for measuring effective values of node voltages in at least two nodes of the at least one current path, a node representing an equipotential point of adjacent electric components; and

means connected to the means for measuring, the means for deriving a characterizing value of at least one electric component of the network by using the value of the current, the effective values of the node voltages, and the predefined network configuration.